

ID Number	2/8/07 version-additions from Jan 30 meeting in italics A. GHG and Clean Energy Goals/Policy Options for States	B. Definitions, examples	C. Level of specificity: is the option focused enough to allow for further research and assessment?	D. Benefit/cost of reducing CO2 (or equivalent)	E. Implementable, experience elsewhere, timeframe, infrastructure required, changes to existing laws/regulations	F. Distribution of burdens, associated harms, impact on competitiveness	G. Other comments/assessments
	RESIDENTIAL/ COMMERCIAL INDUSTRIAL SECTORS						
RCI-1	Mandatory or Voluntary Reporting of Fuel Use, GHG Emissions		<i>must be fleshed out</i>	<i>essential to set up and run programs + measure them</i>	<i>yes, if structured at higher, coarse-grain level</i>	<i>some impact, but much should already be available</i>	<i>high difficulty</i>
RCI-2	Cross-sectoral Energy Efficiency Funds or Requirements for DSM (e.g. Public Benefit Funds, Utility Savings Goals, or Energy Portfolio Standards-- <i>this should be a different category</i>)	Many states impose a tax or surcharge on energy users and use revenues to fund energy efficiency and renewable energy projects.	<i>need specifics</i>	NM: -\$18/ton. AZ: -\$36/ton	<i>yes</i>	<i>determined by marketplace</i>	<i>better look at it-great #s</i>
RCI-3	Voluntary or mandatory efficiency targets	Work with specific sectors to set targets or set state-wide target; voluntary or mandatory; (Utah's current energy efficiency target applies only to state facilities).	<i>define</i>		<i>voluntary must be cost effective to work</i>	<i>be careful of side effects/contradictory targets ie emissions increase</i>	
RCI-4	Regional Market Transformation Alliance	Modeled on the NW Energy Efficiency Alliance and recommended by the WGA task force, a regional organization could pursue regional efforts to promote voluntary actions to conserve energy	<i>define, provide examples</i>	NM: -\$27/ton	<i>what about rural Utah?Depends on situation in region, options/resources available</i>	<i>state to state imbalances +within sectors, interstate and intrastate imbalance</i>	
RCI-5	Negotiated Emissions or Energy Savings Agreements		<i>define</i>	<i>can be useful-depends on motivation of parties</i>	<i>depends</i>	<i>needs study</i>	
RCI-6	Green Power purchasing	Consumer-driven strategies to increase production and delivery of power from renewables.	<i>need more specifics</i>	NM: \$7/ton	<i>results are mixed</i>	<i>can be costly and imbalanced</i>	

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RCI-7	Rate Design	Changes in rate structure such as discouraging decreasing block rates, inverted block rates that impose higher tariffs on larger users, and pursuing peak time surcharge rates to encourage energy efficiency	<i>need more specifics,related to RCI-2</i>	NM: -\$40/ton. AZ: -\$63/ton	<i>yes</i>	<i>have to be careful re impact on industrial and large users, contradicts cost of service doctrine</i>	<i>need to do as much as possible</i>
RCI-8	Distributed generation with combined heat and power systems	Regulations and/or incentives to encourage CHP as a way to improve efficiency of fuel use (should this be an energy supply issue?)	<i>need more specifics</i>	AZ: -\$25/ton; <i>generally has required incentives due to cost hurdles</i>	<i>hard to do where infrastructure is in place; easier where not in place, access to info also a driver</i>	<i>unplanned cost-who pays for a local system</i>	
RCI-9	Distributed generation/renewable energy applications; net metering	Customer-generated power from renewables such as PV and wind; utilities in at least 41 states allow customers to produce electricity and sell it back to the grid.	<i>need more specifics</i>	AZ: \$31/ton. UT DNR: \$191-287/ton; <i>questionable cost effectiveness- emission ruls may add costs, or reduce if large systems charged for their emissions</i>	<i>cost effectiveness may be an issue</i>	<i>needs more detail</i>	
	<i>Conservation Measures</i>						
	RESIDENTIAL						
	Equipment and Appliances: Improve Efficiency and Increase Use of Lower-GHG Fuels						
RCI-10	State Appliance Efficiency Standards	Could replicate CA standards or develop own standards for appliances not covered by federal standards.	<i>define; OK-adopt other federal or state programs</i>	NM: -\$46/ton. AZ: -\$66/ton	<i>driven by local energy costs and principle-driven decisions</i>	<i>manufacturers affected</i>	<i>worth looking at</i>
RCI-11	Promotion and Tax or Other Incentives (e.g. Energy Star products, solar hot water heaters)		<i>existing programs ok; fairly well developed</i>	<i>some cost effective--need numbers</i>	<i>yes, but need better education and communication</i>	<i>could shift -- tax burden fallls on different societal sectors; market-driven</i>	<i>worth looking at; automatic refund for items?</i>
RCI-12	Other utility/DSM Programs (also applies to buildings below)		<i>define; see RCI-2</i>		<i>Vermont efficiency program</i>		<i>worth looking at</i>

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RCI-13	Market transformation and technology development programs (also applies to buildings)	In 2006 CA initiated a Performance Based Incentives Program for solar systems which includes incentive levels for Residential and commercial customers who will receive \$2.50 per watt and will be eligible for additional federal tax credits (http://www.gosolarcalifornia.ca.gov/csi/performance_based.html accessed 1/22/07).	<i>availability of technology solutions is growing, market is working well in ths area</i>	<i>market speaks for itself</i>	<i>yes; NW energy efficiency alliance; yes--in progress</i>	<i>market-driven</i>	<i>worth looking at</i>
RCI-14	Consumer education programs	Develop programs aimed at specific audiences, such as community leaders, organization heads, home owners, young people, etc.	<i>very important; must meet standards in schools; need to focus on specific behaviors of consumers and communicate better</i>		<i>yes; yes but message generally not highy received</i>		<i>definitely but move to cross-cutting category</i>
RCI-15	Focus on specific end-uses/technologies: window AC units, lighting, water heating, plug loads, etc.	<i>incorporate into education, RCI-14, consider possible rebates</i>	<i>same as RCI-13</i>	UT DNR: \$15-24/ton for lighting improvements. <i>Why so expensive?</i>	<i>Related to utility DSM programs, appliance standards, education</i>		<i>look into</i>
RCI-16	Bulk Purchasing Programs for Public Housing and New Developments	CA provides incentives for volume purchasing of ENERGY-STAR products (http://www.cpuc.ca.gov/static/energy/electric/energy+efficiency/generalDescriptions.htm)	<i>market-driven + economies of scale in purchasing, combined with up-front standards and codes for buildings</i>		<i>Is it implementable? Start with low income housing?</i>		<i>look into</i>
RCI-17	Appliance pickup/recycling programs	Voluntary or mandatory programs to specify a recycling rate, reduce methane from landfills through increased recycling; encourage composting and other efforts	<i>need more specifics</i>				<i>yes</i>
	<i>Conservation measures</i>						
	Buildings: Improve Efficiency and Increase Use of Lower-GHG Fuels						

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RCI-18	Incentives for Improved Design and Construction (e.g. Energy Star, green buildings, expedited permitting)	CA Energy Commission has a 10-year, \$350 million program to encourage solar in new home construction (http://www.gosolarcalifornia.ca.gov/csi/index.html)					yes
RCI-19	Solar hot water and PV codes for new buildings	Require new buildings to be configured and wired for solar hot water heaters and PV panels; require buildings with heavy use of heated water to install solar water heaters		solar has good payback			
RCI-20	Energy efficiency improvements in home heating and cooling			UT DNR: \$20-30/ton for home heating and cooling. <i>Why so high?</i>			
RCI-21	Focus on specific market segments: existing homes (weatherization), new construction, apartments, low income, etc.						
RCI-22	Contractor and Builder Education	Could order state boards of licensing to include new building codes; training programs on practices such as proper sizing of HVAC, duct sealing; encourage design of energy-efficient communities					
RCI-23	"Reach" codes	Promote higher than prevailing-code energy performance levels for building; create incentives for new buildings and retrofits		NM: -\$2/ton. AZ: -\$17/ton			

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RCI-24	Improved Building Codes	The American Institute of Architects (AIA) recently called for architects to reduce usage of fossil fuels in the construction and operation of new buildings by 50% by 2010. The Governor has ordered state officials to cooperate with AIA in meeting their goals in Utah. CA Title 24 sets energy efficiency standards for residential and nonresidential buildings (http://www.energy.ca.gov/title24/index.html). Building codes could focus on HVAC systems, daylight lighting to reduce lighting needs, electric lighting design. NW is considering requiring buildings to cut energy use by 50%.sq ft by 2010. Leadership in Energy and Environmental Design (LEED) standards/certification.		NM: -\$12/ton. AZ: -\$17/ton.			
RCI-25	Training/enforcement of building codes						
RCI-26	White Roofs, Rooftop Gardens, and Landscaping (including Shade Tree Programs)						
RCI-27	Education of homeowners	Recognize leadership and leading examples; target specific audiences for campaigns					
RCI-28	Training of Building Managers (Apartments, etc.)						
	<i>Conservation measures</i>						
	Other						

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RCI-29	Incentives for Renewable Energy Applications (Solar roofs, water heaters, etc.)						
RCI-30	Green Power Programs						
RCI-31	Shared Savings Program for Government Agencies						
RCI-32	Marketing Programs						
RCI-33	Introduce in School Curriculum						
RCI-34	Water pumping and treatment efficiency						
	COMMERCIAL						
	Equipment and Appliances: Improve Efficiency and Increase Use of Lower-GHG Fuels						
RCI-35	Equipment Efficiency Standards			UT DNR: \$4-26/ton			
RCI-36	Promotion and Tax or Other Incentives (e.g. Energy Star, credits for solar hot water)						
RCI-37	Bulk Purchasing Programs						
RCI-38	Utility/DSM Programs						
RCI-39	Market transformation & technology development programs						
RCI-40	Use of Alternative Gases (other HFCs, hydrocarbon coolants, etc.)	Alternative gases for commercial refrigeration--stores, restaurants; could also apply to transport vehicles					
RCI-41	Focus on specific end-uses: lighting, water heating, office equipment, etc.						
RCI-42	Incentives for climate mitigation-related businesses						
	Buildings: Improve Efficiency and Increase Use of Lower-GHG Fuels						

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RCI-43	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings)						
RCI-44	White Roofs, Rooftop Gardens, and Landscaping (Shade Trees)						
RCI-45	Improved Building Codes			UT DNR: \$1/ton; \$35-45/ton for space heating and cooling+C4			
RCI-46	Training and Enforcement of Building Codes						
RCI-47	Increased use of blended cement						
RCI-48	Building Commissioning and Recommissioning						
RCI-49	Energy Management Training / Training of Building Operators						
RCI-50	Energy Tracking and Benchmarking						
	<i>Conservation measures</i>						
	Other						
RCI-51	Incentives for Renewable Energy Applications (Solar roofs, etc.)						
RCI-52	Green Power Purchases						
RCI-53	Clean Combined Heat and Power						
RCI-54	Fuel Switching to less carbon-intensive fuels						
RCI-55	Net-metering policies						
RCI-56	Time of Use Rates						
RCI-57	Reinvestment Fund						
RCI-58	Municipal Energy Management						
RCI-59	Water pumping and treatment efficiency						
	INDUSTRIAL						

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	Improve Efficiency and Increase Use of Lower-GHG Fuels						
RCI-60	Promotion and Tax or Other Incentives (e.g. Energy Star, credits for solar hot water)						
RCI-61	Improvements in industrial lighting			\$5-6/ton			
RCI-62	Bulk Purchasing Programs						
RCI-63	Utility/DSM Programs						
RCI-64	Market transformation and technology development programs, industry coalitions						
RCI-65	Focus on specific end-uses: motors, pump systems, boilers, steam system upgrades, process-specific equipment.						
RCI-66	Focus on Small and Medium Enterprises (SMEs)						
RCI-67	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings, expedited permitting)						
RCI-68	Support for switching to less carbon-intensive fuels (coal and oil to natural gas or biomass)						
RCI-69	Improved Building Codes, Training and Enforcement						
RCI-70	Energy Management Training / Training of Building Operators						
RCI-71	Energy Tracking and Benchmarking						
	<i>Conservation measures</i>						
	Other						
RCI-72	Incentives for Renewable Energy Applications (Solar roofs, etc.)						

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RCI-73	Industry-Specific Emissions Cap and Trade Programs						
RCI-74	Negotiated Agreements						
RCI-75	Green Power Purchases						
RCI-76	Clean Combined Heat and Power						
RCI-77	Industrial ecology/ by-product synergy						
RCI-78	Cement Industry: Clinker reduction/substitution, use of alternative fuels						
RCI-79	Net-metering policies						
RCI-80	Time of Use Rates, Load Management and Curtailment Programs						
	Reduce High GWP Gas (HFCs, PFCs, SF6) Emissions						
RCI-81	Participation in Voluntary Industry-Government Partnerships						
RCI-82	Process Changes/ Optimization						
RCI-83	Leak Reduction /Capture, Recovery and Recycling of Process Gases						
RCI-84	Use of Alternative Gases (other HFCs, hydrocarbon coolants, etc.)						
RCI-85	Water pumping and treatment efficiency						
	ENERGY SUPPLY						
	TRANSPORTATION/LAND USE PLANNING						
	AGRICULTURE						
	FORESTRY						

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NM=New Mexico Climate
Change Advisory Group, Final
Report, December 2006.
AZ=Arizona Climate Change
Advisory Group, Climate Change
Action Plan, August 2006.
UT DNR= Utah Department of
Natural Resources. Greenhouse
Gas Reduction Strategies in Utah:
An Economic & Policy Analysis,
2000.

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